

AMENDED IN SENATE MAY 26, 2006
AMENDED IN SENATE APRIL 17, 2006
AMENDED IN SENATE MARCH 28, 2006

SENATE BILL

No. 1505

Introduced by Senator Lowenthal
(Coauthors: Assembly Members Lieu and Pavley)

February 23, 2006

An act to add Sections 43868 and 43869 to the Health and Safety Code, relating to fuel.

LEGISLATIVE COUNSEL'S DIGEST

SB 1505, as amended, Lowenthal. Fuel: hydrogen alternative fuel.

Existing law imposes various limitations on emissions of air contaminants for the control of air pollution from vehicular and nonvehicular sources. Existing law generally designates the State Air Resources Board as the state agency with the primary responsibility for the control of vehicular air pollution. Under existing law, the state board, in conjunction with other state agencies, is required to develop and adopt a state plan to increase the use of alternative fuels, as defined. Existing law also requires retail sellers, as defined, to procure a specified percentage of electricity generated by eligible renewable energy resources, as defined, called a renewables portfolio standard.

This bill would declare the Legislature's intent that, when the California Hydrogen Highway Blueprint Plan² is implemented, it be done so in a clean and environmentally responsible and advantageous manner. The bill would require the state board to adopt regulations that will ensure that state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway

Blueprint Plan, contributes to the reduction of greenhouse gas, criteria air pollutant, and toxic air contaminant emissions, as specified.

The bill would also require the state board to adopt regulations that are to apply in any year immediately following a 12-month period in which the ~~volume~~ *mass* of hydrogen fuel dispensed in California for transportation purposes exceeds ~~500,000 kilograms~~ *1,500 metric tons*, to ensure that the production and use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, contribute to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions, as specified. The bill would authorize the state board to increase the ~~500,000 kilogram~~ *1,500 metric ton* threshold, as specified. The bill would require the California Environmental Protection Agency's Environmental Justice Advisory Committee to meet to discuss the production and distribution of hydrogen fuel in the state, and require the agency secretary, in consultation with the state board, to recommend to the Legislature and the Governor incentives that could be offered to businesses and consumers within the hydrogen fuel industry to spur the development of clean sources of hydrogen fuel.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

- 1 SECTION 1. The Legislature finds and declares all of the
- 2 following:
- 3 (a) A network of hydrogen production and distribution
- 4 facilities for fueling vehicles is developing in California.
- 5 (b) The California Environmental Protection Agency has
- 6 produced the California Hydrogen Highway Blueprint Plan as
- 7 part of the state's efforts to diversify its sources of transportation
- 8 fuels available to California motorists by expanding the network
- 9 of hydrogen fueling stations and availability of
- 10 hydrogen-powered vehicles in the state.
- 11 (c) The California Hydrogen Highway Blueprint Plan
- 12 establishes initial goals for the greenhouse gas emissions and

1 renewable energy content of hydrogen produced for use in the
2 hydrogen highway network.

3 (d) The production of hydrogen fuels for use in vehicles, when
4 made from renewable sources of energy, emits virtually zero net
5 greenhouse gases into the atmosphere.

6 (e) The use of hydrogen fuel in motor vehicles can reduce or,
7 when used in a fuel cell vehicle, virtually eliminate tailpipe
8 emissions of criteria pollutants.

9 (f) Hydrogen fueling stations can reduce onsite evaporative
10 emissions when compared with today's gasoline fueling stations.

11 (g) The widespread use of hydrogen fuels in transportation can
12 reduce California's dependence on petroleum-based fuels, and
13 help enhance our nation's energy security.

14 (h) Moving toward a hydrogen-based economy with an
15 emphasis on hydrogen fuel production from clean, renewable
16 sources could create thousands of new clean manufacturing and
17 technology jobs for California residents.

18 (i) Natural gas, while still an emitter of heat-trapping
19 greenhouse gases, is cleaner than other fossil fuels, and therefore
20 is an important part of a transitional strategy to a clean hydrogen
21 fuel economy.

22 (j) A hydrogen highway network in the state should produce
23 hydrogen fuel from clean, renewable sources and reduce
24 greenhouse gases and other pollutants compared to
25 petroleum-based fuels.

26 (k) Hydrogen fuel and fuel cell vehicles are a central part of
27 achieving the state's Zero Emission Vehicle Program.

28 (l) According to the California Hydrogen Highway Blueprint
29 Plan, the absence of specific goals for reducing emissions and
30 using renewable resources to produce hydrogen fuel might
31 actually increase greenhouse gas and particulate matter emissions
32 relative to petroleum fueled vehicles.

33 (m) *Hydrogen produced from natural gas or from clean*
34 *electricity and used in hydrogen vehicles will reduce the*
35 *consumption of fossil fuels compared to gasoline vehicles.*

36 SEC. 2. Section 43868 is added to the Health and Safety
37 Code, to read:

38 43868. (a) It is the intent of the Legislature that, when the
39 California Hydrogen Highway Blueprint Plan is implemented, it

1 be done—so in a clean and environmentally responsible and
2 advantageous manner.

3 (b) It is further the intent of the Legislature that the state board
4 work with other relevant state agencies—to increase *on* the
5 production of hydrogen, with an emphasis on hydrogen produced
6 from renewable resources, as part of a strategy to reduce the
7 state's dependence on petroleum, achieve the state's greenhouse
8 gas emission reduction targets, and improve air quality for the
9 state's residents.

10 (c) It is further the intent of the Legislature that the California
11 Environmental Protection Agency and the state board, as part of
12 the implementation of the California Hydrogen Highway
13 Blueprint Plan, include in their priorities the deployment of
14 hydrogen fueled transit buses.

15 SEC. 3. Section 43869 is added to the Health and Safety
16 Code, to read:

17 43869. The state board shall, no later than July 1, ~~2007~~ 2008,
18 develop and, after at least two public workshops, adopt *hydrogen*
19 *fuel* regulations to ensure the following:

20 (a) That state funding for the production and use of hydrogen
21 fuel, as described in the California Hydrogen Highway Blueprint
22 Plan, contributes to the reduction of greenhouse gas emissions,
23 criteria air pollutant emissions, and toxic air contaminant
24 emissions. The regulations shall, at a minimum, do all of the
25 following:

26 (1) Require that, *on a statewide basis*, well-to-wheel emissions
27 of greenhouse gases for the average hydrogen powered vehicle
28 fueled by hydrogen from fueling stations that receive state funds
29 are at least 30 percent lower than emissions for the average new
30 gasoline vehicle in California when measured on a per-mile
31 basis.

32 (2) Require that, on a statewide basis, no less than 33.3 percent
33 of the hydrogen produced for, or dispensed by, fueling stations
34 that receive state funds be made from eligible renewable energy
35 resources as defined in subdivision (a) of Section 399.12 of the
36 Public Utilities Code.

37 (3) Prohibit hydrogen fuel producers from counting as a
38 renewable energy resource, pursuant to paragraph (2), any
39 electricity produced from sources previously procured by a retail
40 seller and verifiably counted by the retail seller towards meeting

1 the renewables portfolio standard obligation, as required by
2 Article 16 (commencing with Section 399.11) of the Public
3 Utilities Code.

4 (4) Require that all hydrogen fuel dispensed from fueling
5 stations that receive state funds be generated in a manner so that
6 local well-to-tank emissions of nitrogen oxides plus reactive
7 organic gases are at least 50 percent lower than well-to-tank
8 emissions of the average motor gasoline sold in California when
9 measured on an energy equivalent basis.

10 (5) Require that well-to-tank emissions of relevant toxic air
11 contaminants for hydrogen fuel dispensed from fueling stations
12 that receive state funds be reduced to the maximum extent
13 feasible at each site when compared to well-to-tank emissions of
14 toxic air contaminants of the average motor gasoline fuel on an
15 energy-equivalent basis. In no case shall the toxic emissions be
16 greater than the emissions from gasoline on an energy equivalent
17 basis.

18 (6) Require that providers of hydrogen fuel for transportation
19 in the state report to the state board the annual ~~volume~~ mass of
20 hydrogen fuel dispensed and the method by which the dispensed
21 hydrogen was produced.

22 (b) The regulations shall also require that, in any year
23 immediately following a 12-month period in which the ~~volume~~
24 mass of hydrogen fuel dispensed for transportation purposes in
25 California exceeds ~~500,000 kilograms~~ 1,500 metric tons, the
26 production and use of hydrogen fuels for motor vehicles in the
27 state, including, but not limited to, any hydrogen highway
28 network that is developed pursuant to the California Hydrogen
29 Highway Blueprint Plan, shall contribute to a reduced
30 dependence on petroleum, as well as reductions in greenhouse
31 gas emissions, criteria air pollutant emissions, and toxic air
32 contaminant emissions. For the purpose of this subdivision, the
33 regulations shall, at a minimum, do all of the following:

34 (1) Require that, *on a statewide basis*, well-to-wheel emissions
35 of greenhouse gases for the average hydrogen powered vehicle in
36 California are at least 30 percent lower than emissions for the
37 average new gasoline vehicle in California when measured on a
38 per-mile basis.

39 (2) Require that, on a statewide basis, no less than 33.3 percent
40 of the hydrogen produced or dispensed in California for motor

1 vehicles be made from eligible renewable energy resources as
2 defined in subdivision (a) of Section 399.12 of the Public
3 ~~Resources~~ *Utilities* Code.

4 (3) Allow hydrogen fuel producers to count as a renewable
5 energy resource, pursuant to paragraph (2), no more than
6 one-half of the renewable sources of electricity used to produce
7 hydrogen fuel that were previously procured by a retail seller and
8 verifiably counted towards meeting the renewables portfolio
9 standard obligation, as required by Article 16 (commencing with
10 Section 399.11) of the Public Utilities Code.

11 (4) Require that all hydrogen fuel dispensed in California for
12 motor vehicles be generated in a manner so that local
13 well-to-tank emissions of nitrogen oxides plus reactive organic
14 gases are at least 50 percent lower than well-to-tank emissions of
15 the average motor gasoline sold in California when measured on
16 an energy equivalent basis.

17 (5) Require that well-to-tank emissions of relevant toxic air
18 contaminants from hydrogen fuel produced or dispensed in
19 California be reduced to the maximum extent feasible at each site
20 when compared to well-to-tank emissions of toxic air
21 contaminants of the average motor gasoline fuel on an
22 energy-equivalent basis. In no case shall the toxic emissions from
23 hydrogen fuel be greater than the toxic emissions from gasoline
24 on an energy-equivalent basis.

25 (c) Notwithstanding subdivision (b), the state board may
26 increase the ~~500,000 kilogram~~ *1,500 metric ton* threshold in
27 subdivision (b) by no more than ~~200,000 kilograms~~ *500 metric*
28 *tons* if either of the following requirements are met:

29 (1) The ~~500,000 kilogram~~ *1,500 metric ton* threshold is first
30 met prior to January 1, ~~2009~~ *2010*.

31 (2) The state board determines that the ~~500,000 kilogram~~
32 *1,500 metric ton* threshold has been met primarily due to
33 hydrogen fuel consumed in heavy duty vehicles.

34 (3) *The state board determines at a public hearing that*
35 *increasing the threshold would accelerate the deployment of*
36 *hydrogen fuel cell vehicles in the state.*

37 (d) The state board, in consultation with other relevant
38 agencies as appropriate, shall review the renewable resource
39 requirements adopted pursuant to paragraphs (2) and (3) of
40 subdivision (a) and paragraphs (2) and (3) of subdivision (b)

1 every three years and shall increase the renewable resource
2 percentage requirements if it determines that it is technologically
3 feasible to do so and will not substantially hinder the
4 development of ~~the state's clean hydrogen economy~~ *hydrogen as*
5 *a transportation fuel in a manner that is consistent with this*
6 *section.*

7 (e) The state board shall review the emission requirements
8 adopted pursuant to paragraphs (1), (4), and (5) of subdivision (a)
9 and paragraphs (1), (4), and (5) of subdivision (b) every three
10 years and shall strengthen the requirements if it determines it is
11 technologically feasible to do so and will not substantially hinder
12 the development of ~~the state's clean hydrogen economy~~
13 *hydrogen as a transportation fuel in a manner that is consistent*
14 *with this section.*

15 (f) The state board shall produce and periodically update a
16 handbook to inform and educate motor vehicle manufacturers,
17 hydrogen fuel producers, hydrogen service station operators, and
18 other interested parties on how to comply with the requirements
19 set forth in this section. This handbook shall be made available
20 on the agency's Internet Web site.

21 (g) The Secretary for Environmental Protection shall convene
22 the California Environmental Protection Agency's,
23 Environmental Justice Advisory Committee at least twice
24 annually to solicit the committee's comments on the production
25 and distribution of hydrogen fuel in the state.

26 (h) The Secretary for Environmental Protection, in
27 consultation with the state board, shall recommend to the
28 Legislature and the Governor incentives that could be offered to
29 businesses and consumers within the hydrogen fuel industry to
30 spur the development of clean sources of hydrogen fuel.

31 (i) As used in this section, "well-to-tank emissions" means
32 emissions resulting from production of a fuel, ~~to and including its~~
33 ~~transportation into the fuel tank of a consumer vehicle, and~~
34 ~~"well-to-wheel emissions" means emissions resulting from~~
35 ~~production of a fuel, to and including its consumption in a~~
36 ~~vehicle.~~ *including resource extraction, initial processing,*
37 *transport, fuel production, distribution and marketing, and*
38 *delivery into the fuel tank of a consumer vehicle, and*
39 *"well-to-wheel emissions" means emissions resulting from*
40 *production of a fuel, including resource extraction, initial*

- 1 *processing, transport, fuel production, distribution and*
- 2 *marketing, and delivery and use in a consumer vehicle.*

O